

Interfacing to Analog IRIG Transmitters with High Voltage Signal Levels

All *LuxLink*® analog fiber optic IRIG transmitters are designed to operate with a maximum input signal level of 3 volts pp. The use of higher amplitudes will result in clipping and possible loss of modulation. This can impact the overall quality of the IRIG signal at the receiving end of the link and even prevent proper operation of the peripheral equipment. In those instances where higher signal levels are present however there is a simple solution to eliminate the above problem.

Figure 1 shows the use of a common 1,000 ohm potentiometer connected as a simple attenuator. In use the signal to be transmitted is connected across the potentiometer as shown. Then the potentiometer is adjusted so that the maximum peak-to-peak signal at the input to the IRIG transmitter is less than 3 volts pp. Observing the received signal on a companion receiver “touch up” the setting of the potentiometer to eliminate any remaining distortion or clipping if needed.

The simple resistor network shown in figure 2 can also be installed at the input to an IRIG transmitter in cases where a potentiometer and test equipment to make the various adjustments are not available. This network will reduce 10 volt pp signals to approximately 2.5 volts pp, well within the range of the transmission system. Note that the below network is designed for IRIG transmitters which have a 600 ohm input.

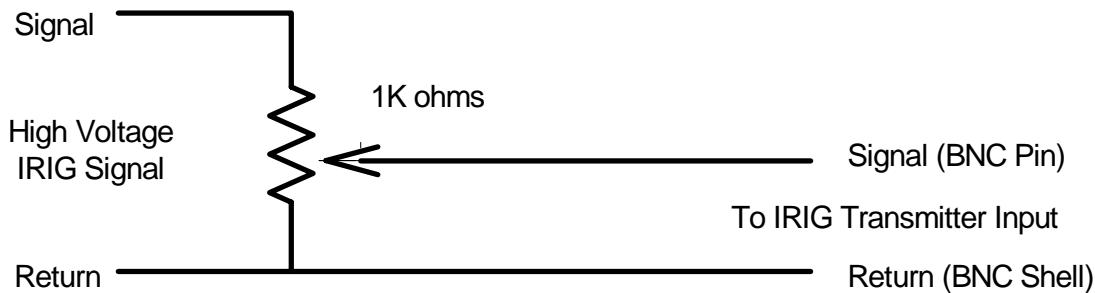


Figure 1, Potentiometer IRIG Input Attenuator

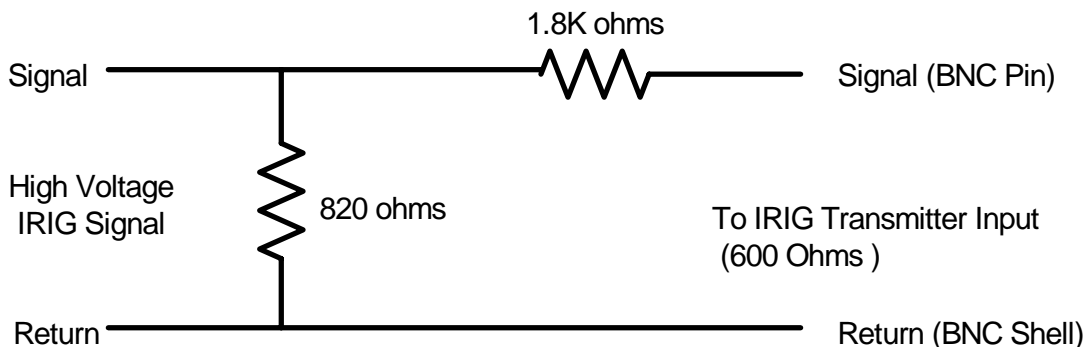


Figure 2, Simple Resistor Based IRIG Input Attenuator